

REMARKS

Claims 1, 3, 5, 7-18, and 43-48 are pending in this application. Claims 1, 3, 5, and 7 have been amended. Claims 19-42 have been canceled without prejudice as drawn to a non-elected invention. Claims 2, 4, and 6 have been canceled. New Claims 43-48 have been added. Support for the new claims and amendments is found in the specification and claims as filed.

Claim Rejection - 35 U.S.C. §103(a)

Claims 1-18 have been rejected under 35 U.S.C. §103(a) as obvious over Bourganel (US 3,855,122) in view of Scott et al. (US 4,954,143) and Wang et al. (US 6,258,272). To articulate a *prima facie* case of obviousness under 35 U.S.C. §103(a), the PTO must, *inter alia*, cite prior art that teaches or suggests all the claimed limitations. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). The cited references, alone or in combination, do not teach or suggest all limitations of the pending claims as amended.

Pending Claim 1 recites “[a] hydrophilic, cast polymer matrix, the matrix comprising a sulfone polymer, wherein the sulfone polymer is sulfonated in solution using a sulfonating acid solvent, wherein the sulfone polymer is selected from the group consisting of polyarylsulfone, polyarylethersulfone, and mixtures thereof, and wherein the matrix additionally comprises a substantially non-sulfonatable polymer selected from the group consisting of non-aryl polysulfone, non-aryl polyethersulfone, and mixtures thereof.” Applicants note that one of the limitations of Claim 1 is a “substantially non-sulfonatable polymer.” A polymer that is “non-sulfonatable” is incapable of being sulfonated. This is in contrast to a polymer that is capable of being sulfonated, but is not sulfonated, i.e., a “non-sulfonated” sulfonatable polymer. A non-sulfonated polymer can be either sulfonatable or non-sulfonatable.

Bourganel teaches a process for the preparation of anisotropic semipermeable membranes from specified sulfonated polyarylether/sulfones. Bourganel does not teach a membrane matrix comprising both a sulfone polymer that is sulfonated and a substantially non-sulfonatable polymer. Scott et al. teaches gas separation membranes comprising a sulfonated polyarylsulfone or sulfonated polyarylketone. The sulfonated polyethersulfone can include a proportion of unsulfonated copolymer including an unsulfonated portion (formula F) together with repeating units of (formula D) and (formula E). See col. 3, lines 4-11. The repeating units of formula F and E are sulfonatable, however (see col. 3, line 26-28). Accordingly, Scott et al. does not teach

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a membrane comprising a "substantially non-sulfonatable polymer," much less a substantially non-sulfonatable polymer such as a non-aryl polysulfone or a non-aryl polyethersulfone. Wang et al. teaches hydrophilic membranes containing blends of polyethersulfone and sulfonated polymers or copolymers. All of the sulfone polymers and copolymers specifically disclosed in Wang et al. are aromatic sulfone polymers – non-aryl polysulfones and non-aryl polyethersulfones are not specifically disclosed. Moreover, Wang et al. indicates that the components of the membrane are susceptible to "degradation" (i.e., sulfonation). See col. 7, lines 57-60 which states "[t]he sulfone polymer and the sulfonated polymer or copolymer are blended after the polymer or copolymer is sulfonated, thereby avoiding degradation of an already formed membrane through sulfonation." Accordingly, Wang et al. does not specifically disclose a substantially non-sulfonatable non-aryl polysulfone or a substantially non-sulfonatable non-aryl polyethersulfone.

Because the cited references, alone or in combination, do not teach or suggest all limitations of the pending claims as amended, Applicants respectfully request that the rejection be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns that might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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By: 

Rose M. Thiessen
Registration No. 40,202
Attorney of Record
Customer No. 20,995
(619) 235-8550